The Monitor

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Homeland Security Technology Field Day Draws Diverse Audience

Technologies that can monitor for, detect, or decontaminate biological and chemical contaminants in drinking water and buildings, and other structures were showcased at the Homeland Security Technology Field Day on October 20 before an audience of nearly 100 at Battelle's facilities in Columbus, Ohio. The focus was on the homeland security applications of these technologies.

The U.S. Environmental Protection Agency and Battelle are verifying the performance of these technologies through EPA's Environmental Technology Verification (ETV) program. The ETV program generates third-party objective performance data on commercially available environmental technologies so potential buyers and users can make informed purchases and application decisions.

Ryan James, a Battelle verification test coordinator, described the role of rapid toxicity monitors, which are intended to serve as indicators of water toxicity. They can quickly indicate early signs of biological or chemical contamination (usually within an hour). They do not identify a specific toxic substance or biological agent but can, to some extent, measure the amount of toxicity in the sample.

The eight rapid toxicity monitors being tested are MicroTOX, DeltaTOX, Eclox Rapid Water Test Kit, ToxTrak, PolyTox InterLab, Toxscreen, BioTox, and IQ Toxicity Test. The IQ Toxicity Test monitor (demonstrated below) uses a fluorometric biomarker, takes one hour to complete the test, and has "do it yourself" capabilities.

Chairing the event was Charles Wilhelm, the vice president and director of Battelle's Office of Homeland Security. Keynote speakers at the event were U.S.

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Ryan James (left photo) introduced eight technologies being tested and demonstrated one of the monitors (right photo), the Aqua Survey Inc.'s IQ Toxicity Test (test kit inset). The purpose of the test is to monitor for and protect the quality of the nation's drinking water supplies.

The test objective in to verify the performance of rapid analysis technologies that measure toxicity in drinking water and have the ability to detect certain toxins and their susceptibility to interfering chemicals.

The AMS Center, which is part of the U.S. Environmental Protection Agency's Environmental Technology Verification Program, verifies the performance of technologies that monitor for contaminants and natural species in air, water, and soil. ETV was established to accelerate the implementation of improved environmental technologies through third-party verification testing and reporting of the technologies' performance. The ETV process provides purchasers and permitters with an independent assessment of the technology they are buying or permitting and facilitates multi-state acceptance. For further information, contact Helen Latham at Battelle, 505 King Ave., Columbus, Ohio 43201-2693; Phone 614-424-4062; Fax 614-424-5601; E-mail lathamh@battelle.org.

Field Day *(from Page 1)*

Senator George V. Voinovich and U.S. Congressman Patrick Tiberi, representing Ohio; Paul Gilman, EPA science advisor and assistant administrator for research and development; and E. Timothy Oppelt, director of EPA's National Homeland Security Research Center. Excerpts from their presentations are in the adjacent column.

Diversity of interests describes those in the audience at the Homeland Security Technology Field Day: a representative from U.S. Senator Michael De Wine's office, Ohio State Senator Steve Stivers, staff from two federal agencies (U.S. EPA and the Center for Disease Control's National Institute for Occupational Safety and Health), military representatives (U.S. Army and Air Force), state agencies (including the Ohio Department of Health and the Ohio Fire Academy), local agencies (e.g., the Columbus Police Department, city and county emergency responders), representatives of universities, technology users, and vendors.

AMS Center's Technology Verifications Now Total 61

The five portable analyzers for detecting arsenic in water and five mercury continuous emission monitors brought the Advanced Monitoring System (AMS) Center's verification total to 61 technologies. This total includes 39 air monitoring technologies and 22 water monitoring technologies.

Excerpts: Keynote Speakers Agree New Technologies, Collaboration = Solutions

Charles E. Wilhelm,
Vice President & Director,
Battelle Office of Homeland Security

In light of world events two years after September 11, the importance of homeland security issues has not diminished. In fact, the threats and concerns are likely to command significant attention for the foreseeable future. Protecting people and critical assets in the U.S. is vitally important today. That is why EPA is investing in this program to test Homeland Security technologies.

U.S. Senator George V. Voinovich

I'm very interested in the work being done here because I am on the Government Affairs Committee in charge of Homeland Security and also on the Environment and Public Works Committee, which oversees the U.S. EPA and supports first responders. Since 9-11, our nation has proactively pooled resources, information, and technology to better defend the homeland. Public-private partnerships like this one (between EPA and Battelle) are clearly helping to develop and implement innovations that play a key role in helping safeguard America. In Congress, I'll continue to advocate the importance of partnerships like this.

U.S. Congressman Patrick Tiberi

The threats are always evolving…this program will provide the most up-to-date information on detection technologies. It also demonstrates the importance of developing technologies to make our communities more secure. What happened in the D.C. area on 9-11 was not only a learning experience but a wakeup call to our policy makers that they had to get on this quickly.

Paul Gilman, Science Advisor & Assistant Administrator for Research & Development, U.S. EPA

EPA is working aggressively with industry to develop, test, verify, and distribute technologies to help make our nation's drinking water and buildings safer. We believe that actions taken to address vulnerabilities to public water sources and buildings will greatly reduce the threat of terrorist attacks.

E. Timothy Oppelt, Director, National Homeland Security Research Center, U.S. EPA

A year ago we at EPA sat down and concentrated on what technologies would be needed to meet these critical threats—how to protect facilities, detect contamination or clean up after biological or chemical attacks. Sixty projects were initiated over that one-year span by EPA' s research programs, including the projects we're talking about today. We realized that the private sector was also important in using the new technologies, so testing these technologies and demonstrating how to use them was of critical importance.